

By the foregoing amendment, claim 1 has been amended to recite culturing conditions and the amount of arachidonic acid produced by the microorganism when cultured. Support for this amendment to claim 1 may be found, at the very least, on page 8, lines 1-9, and in Example 2, of the specification as filed. Newly added claims 31 and 32 find support in claim 1 as originally filed and on page 8, lines 1-9, and in Example 2. No new matter has been added by the foregoing amendment.

Restriction Requirement

The claims of the instant invention were restricted into the following groups of invention:

- I. Claims 1 and 3-7, drawn to a process of making arachidonic acid using *Mortierella*, classified in class 435, subclass 135.
- II. Claims 8 and 10-14, drawn to a process of making γ -bishomolinoleic acid using *Mortierella*, classified in class 435, subclass 135.
- III. Claims 15 and 17-21, drawn to a process of making eicosapentaenoic acid using *Mortierella*, classified in class 435, subclass 135.
- IV. Claims 22-25 and 27-29 drawn to a feed composition comprising *Mortierella* classified in class 426, subclass 60.
- V. Claims 26 and 30, drawn to a strain of *Mortierella* and a feed composition thereof, classified in class 435, subclass 60.

Applicants hereby affirm the election of Group I, claims 1 and 3-7, with traversal.

This election is made *with* traverse. Applicants respectfully submit that, according

to the MPEP § 803, a restriction between patentably distinct inventions is proper only where there is a serious burden on the Examiner to examine all the claims in a single application. This is true even when appropriate reasons exist for a restriction requirement.

In the present application, it is believed that because there is a close relationship between the subject matter of the Groups I-III claims, there would be no serious burden on the Examiner to examine these sets of claims at this time. Applicants note that the claims of Groups I-III are all classified into the same class (class 435) and subclass (subclass 135), and indication of how closely related these claims are. Thus, at the very least, applicants request a modification of the restriction requirement so that the Examiner examines the claims of Groups I-III together.

In light of the above, it is respectfully requested that the restriction requirement be modified so that the claims of Groups I-III be examined together.

Rejection of Claim 4 Under 35 U.S.C. § 112, First and Second Paragraphs

Claim 4 has been rejected under 35 U.S.C. § 112, first and second paragraphs, for purportedly not being described in the specification in such full, clear, concise and exact terms as to enable a person skilled in the art to make and use the invention. According to the Examiner, the species *M. alliacea* is not known to one of skill in the art. Applicants respectfully traverse this rejection.

Attached as Exhibit A is a copy of *Mucorales* (1969), pages 155-156 and 187-201. In the first paragraph on page 197 the properties of *Mortierella alliacea* are described in detail. Additionally, attached as Exhibit B is a copy of CBS List of Cultures, on which

Mortierella alliacea is listed. Since the strain is listed in this publication, *Mortierella alliacea* is available to the public.

In light of these remarks, applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 112, first and second paragraphs.

Rejection of Claim 6 Under 35 U.S.C. § 112, First Paragraph

Claim 6 has been rejected under 35 U.S.C. § 112, first paragraph, for purportedly containing subject matter not describe din the specification in such a way as to enable one of skill in the art to make and/or use the invention. For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

Attached hereto is a Deposit Declaration, signed by an agent of record in the above-identified application, and a certificate of deposit of the strain *Mortierella sp.* SAM 2197.

In light of these submissions, applicants respectfully request withdrawal of these rejections under 35 U.S.C. § 112, first paragraph.

Rejection of Claims 1, 3, 5 and 6 Under 35 U.S.C. § 102(b)

Claims 1, 3, 5 and 6 have been rejected under 35 U.S.C. § 102(b) for purportedly being anticipated by Kyle, U.S. Patent No. 5,658,767. For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

The claimed invention is drawn to a process for producing arachidonic acid or lipid containing arachidonic acid comprising culturing a microorganism belonging to the genus *Mortierella*, wherein the process results in the production by the microorganism of at least

7 g/L of arachidonic acid. This process involves culturing the microorganism in a medium containing at least 4% carbon source at the start of culturing and at least 2% nitrogen source at the start of culturing, and culturing is carried out for 5 to 10 days with agitation and aeration. See the results of Example 2, wherein a culture medium having 6% glucose provided 7.1 g/L arachidonic acid; a culture medium having 8% glucose provided 9.8 g/L arachidonic acid; and a culture medium having 11% glucose provided 14.3 g/L arachidonic acid, all with 8 days of culturing.

Kyle does not disclose each of the aspects of the claimed invention, and therefore does not anticipate the claimed invention. Specifically, Kyle discloses a maximum productivity of arachidonic acid of 5.3 g/L in 10 days of culturing. See Example 7, wherein *Mortierella alpina* was cultured for about 10 days (237 hours/24 hours), and 1.05 g/L/day of oil was produced, and the arachidonic acid content in the oil was 51.2%, which corresponds to 5.3 g/L of arachidonic acid produced. Thus, Kyle does not disclose a process of producing arachidonic acid wherein culturing of a microorganism results in production of at least 7 g/L of arachidonic acid in 5 to 10 days. Therefore, Kyle does not anticipate the present invention.

In light of these remarks, applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 102(b).

Rejection of Claims 1 and 3-7 Under 35 U.S.C. § 103(a)

Claims 1 and 3-7 have been rejected under 35 U.S.C. § 103(a) for purportedly being unpatentable over Kyle. For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

The Examiner purports that although Kyle does not disclose culturing *Mortierella alliacea* or the deposited strain SAM 2197, these strains are so similar to the strain disclosed by Kyle (i.e. *M. alpina*) that one of ordinary skill in the art would reasonably expect similar properties with respect to arachidonic acid production.

As discussed above, Kyle does not disclose, nor does he suggest, the process of the present invention. Specifically, Kyle does not disclose or suggest a process of producing arachidonic acid wherein culturing of *M. alpina* results in production of at least 7 g/L of arachidonic acid in 5 to 10 days. Since Kyle does not disclose or suggest this aspect of the present invention, Kyle could not possibly disclose or suggest a process of producing arachidonic acid wherein culturing of *M. alliacea* or SAM 2197 results in production of at least 7 g/L of arachidonic acid in 5 to 10 days. Therefore, Kyle does not disclose or suggest the present invention, and the present invention is not *prima facie* obvious in view of this reference.

In light of these remarks, applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 103(a).

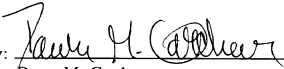
CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

In the event that there are any questions relating to this application, the Examiner is invited to telephone the undersigned so that prosecution of the subject application may be expedited.

Respectfully submitted,

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